

From the INTERNATIONAL SEARCHING AUTHORITY

**PCT**

To:

TOMKINS & CO.  
Attn. Gates, Marie C. E.  
5 Dartmouth Road  
Dublin 6  
IRELAND

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL SEARCH REPORT AND  
THE WRITTEN OPINION OF THE INTERNATIONAL  
SEARCHING AUTHORITY, OR THE DECLARATION

26 NOV 2004  
ENTERED ON INPROMA

26 NOV 2004

(PCT Rule 44.1)

Date of mailing  
(day/month/year)

26/11/2004

Applicant's or agent's file reference

P0156PCT/MCG

**FOR FURTHER ACTION**

See paragraphs 1 and 4 below

International application No.

PCT/IE2004/000042

International filing date

(day/month/year)

25/03/2004

Applicant

DUBLIN CITY UNIVERSITY

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

**Filing of amendments and statement under Article 19:**

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

**When?** The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet.

**Where?** Directly to the International Bureau of WIPO, 34 chemin des Colombettes  
1211 Geneva 20, Switzerland, Facsimile No.: (41-22) 740.14.35

**For more detailed instructions,** see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.
3. ☐ **With regard to the protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

- ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.
- ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

**4. Reminders**

Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date.

Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until **30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the International Searching Authority



European Patent Office, P.B. 5818 Patentaan 2  
NL-2280 HV Rijswijk  
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Authorized officer

Doreen Golze

## NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions respectively.

### INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

#### What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

#### When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

#### Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

#### How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

#### What documents must/may accompany the amendments?

##### Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

## NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:  
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:  
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:  
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or  
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:  
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

### "Statement under article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

### Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the same time of filing the amendments with the International Bureau, also file a copy of such amendments with the International Preliminary Examining Authority (see Rule 62.2(a), first sentence).

### Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, where upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see Volume II of the PCT Applicant's Guide.

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>P0156PCT/MCG</b>	<b>FOR FURTHER ACTION</b> see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. <b>PCT/IE2004/000042</b>	International filing date (day/month/year) <b>25/03/2004</b>	(Earliest) Priority Date (day/month/year) <b>03/04/2003</b>
Applicant <b>DUBLIN CITY UNIVERSITY</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☒ **Certain claims were found unsearchable** (See Box II).

3. ☐ **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regards to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. 1

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

- b. ☐ none of the figures is to be published with the abstract.

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/IE2004/000042

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 G06F17/30

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 G06F G06K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>LIANG-KAI H ET AL: "Efficient shape matching through model-based shape recognition" PATTERN RECOGNITION, ELSEVIER, KIDDLINGTON, GB, vol. 29, no. 2, 1 February 1996 (1996-02-01), pages 207-215, XP004006252 ISSN: 0031-3203 page 208, right-hand column, line 5 - line 14 section 3, page 209 - page 213 ----- -/--</p>	1-18

☒ Further documents are listed in the continuation of box C.

☐ Patent family members are listed in annex.

## \* Special categories of cited documents:

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*Z\* document member of the same patent family

Date of the actual completion of the international search

18 November 2004

Date of mailing of the international search report

26/11/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Lechenne-Stiller, L

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>VAN DER HEIJDEN G W A M: "Construction of a polygonal model using the Fisher-ratio criterion"</p> <p>PATTERN RECOGNITION, 1994. VOL. 1 - CONFERENCE A: COMPUTER VISION &amp; IMAGE PROCESSING., PROCEEDINGS OF THE 12TH IAPR INTERNATIONAL CONFERENCE ON JERUSALEM, ISRAEL 9-13 OCT. 1994, LOS ALAMITOS, CA, USA, IEEE COMPUT. SOC, 9 October 1994 (1994-10-09), pages 210-215, XP010215998</p> <p>ISBN: 0-8186-6265-4</p> <p>abstract</p> <p>page 211, left-hand column, line 37 - line 42</p> <p>page 212, left-hand column, line 1 - line 12</p> <p>-----</p>	1,3
A	<p>DAHAI C ET AL: "Recognition of handwritten digits based on contour information"</p> <p>PATTERN RECOGNITION, ELSEVIER, KIDLINGTON, GB, vol. 31, no. 3, 1 March 1998 (1998-03-01), pages 235-255, XP004101845</p> <p>ISSN: 0031-3203</p> <p>abstract</p> <p>section 3, page 239 - page 242</p> <p>-----</p>	1-11,16,17
A	<p>QUANG MINH T ET AL: "An application of wavelet-based affine-invariant representation"</p> <p>PATTERN RECOGNITION LETTERS, NORTH-HOLLAND PUBL. AMSTERDAM, NL, vol. 16, no. 12, 1 December 1995 (1995-12-01), pages 1287-1296, XP004000007</p> <p>ISSN: 0167-8655</p> <p>section 2.2, page 1290 - page 1291</p> <p>-----</p>	1,5-11

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 19

Claim 19 refers to other parts of the application, which is contrary to Rule 6.2a PCT. It is indeed not possible to clearly define the scope of the claim only based on the drawings.  
Therefore, a meaningful search of claim 19 was not possible.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IE2004/000042

## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 19  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.



# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

## PCT

To:

see form PCT/ISA/220

### WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/E2004/000042

International filing date (day/month/year)  
25.03.2004

Priority date (day/month/year)  
03.04.2003

International Patent Classification (IPC) or both national classification and IPC  
G06F17/30

Applicant  
DUBLIN CITY UNIVERSITY

**1. This opinion contains indications relating to the following items:**

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

**2. FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

**3. For further details, see notes to Form PCT/ISA/220.**

Name and mailing address of the ISA:



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Fax: +49 30 25901 - 840

Authorized Officer

Lechenne-Stiller, L

Telephone No. +49 30 25901-664



**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/E2004/000042

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material:  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing:  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/IE2004/000042

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**Box No. II    Priority**

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1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

~~☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).~~

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

**Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application,
- ☒ claims Nos. 19

because:

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):
- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☒ no international search report has been established for the whole application or for said claims Nos. 19
- ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:
  - the written form ☐ has not been furnished
  - ☐ does not comply with the standard
  - the computer readable form ☐ has not been furnished
  - ☐ does not comply with the standard
- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-bis of the Administrative Instructions.
- ☒ See separate sheet for further details

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/IE2004/000042

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	3,5-17
	No: Claims	1,2,4,18
Inventive step (IS)	Yes: Claims	
	No: Claims	1-18
Industrial applicability (IA)	Yes: Claims	1-18
	No: Claims	

2. Citations and explanations

**see separate sheet**

**Re Item III**

**Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

Claim 19 refers to other parts of the application, which is contrary to Rule 6.2a PCT. It is indeed not possible to clearly define the claim based only on the drawings. Therefore, no meaningful search could be carried out for claim 19, and no opinion can be given on this claim.

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. The following documents (D1, D2, D3, D4) are referred to in this communication; the numbering will be adhered to in the rest of the procedure:

- D1: LIANG-KAI H ET AL: "Efficient shape matching through model-based shape recognition" (1996-02-01), XP004006252
- D2: VAN DER HEIJDEN G W A M: "Construction of a polygonal model using the Fisher-ratio criterion" (1994-10-09), XP010215998
- D3: DAHAI C ET AL: "Recognition of handwritten digits based on contour information" (1998-03-01), XP004101845
- D4: QUANG MINH T ET AL: "An application of wavelet-based affine-invariant representation" (1995-12-01), XP004000007

2. The present application does not meet the requirements of Article 6 PCT, because claim 17 is not clear.

In claim 17, reference is made to a "minimum circumference" without further details, which makes the claim unclear. It should be completed according to the description, page 20, lines 1-2.

3. It appears that independent claim 1 does not meet the requirements of the PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

The document D1 discloses (the references in parentheses applying to this document) the following features of claim 1:

- A method (abstract) of comparing at least two sets of multimedia data using shape

information so as to provide a dissimilarity measure between the sets, a first set forming a reference set and the second set being compared relative to the first set, the method comprising steps of;

- a) providing a set of contour points for each set of multimedia data (page 209, right-hand column, lines 8-11: the sets of contour points are polygons),
- b) associating the contour points of the first set with contour points of the second set so as to define associated contour points (page 209, right-hand column, lines 11-13),
- c) calculating distances between said associated contour points (page 209, right-hand column, lines 28-39), and
- wherein the distances between said associated contour points are used to determine a dissimilarity measure between said sets of multimedia data, thereby providing an indicator of the degree of similarity between the sets (page 209, right-hand column, lines 28-39).

These are all the features of claim 1, therefore the subject-matter of claim 1 is not new.

4. Dependent claims 2-18 do not appear to contain any additional features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT with respect to novelty (Article 33(2) PCT), and/or inventive step (Article 33(3) PCT), the reasons being as follows :

4.1 The subject-matter of claim 2 is disclosed in D1 (page 211, right-hand column, lines 4-5) and is therefore not new. Contour tracing is moreover a well-known technique in the field.

4.2 The subject-matter of claim 3 is not inventive.

Down-sampling of the contour points is disclosed in D1 (page 211, right-hand column, lines 8-11) where the boundary is replaced by a polygon.

The particular method of down-sampling used in the present application is obvious for the skilled person and is disclosed for example in document D2 (page 211, left-hand column, lines 37-42 and page 212, left-hand column, lines 1-12) or in document D3 (section 3 on page 240, right-hand column, lines 24-25).

4.3 The subject-matter of claim 4 is disclosed in D1 (page 208, right-hand column, lines 5-14) and is therefore not new. Normalization is moreover a well-known technique in the field, solving a common problem.

4.4 The subject-matter of claims 5-10 is not inventive.

The problem solved by the features of these claims is to determine the starting points in order to optimize the efficiency of the shape comparison method.

This problem is well-known and disclosed for example in D1 (page 209, right-hand column, lines 8-15 and page 210, right-hand column, lines 14-16).

Different methods exist to choose these starting points, and the method used in the present application (using the most distant points from the centroid) is well-known in the field, as shown for example in documents D3 (section 3, on page 240, right-hand column, lines 32-35) or D4 (section 2.2 on page 1290).

It is just a mere choice for the skilled person to choose one of these methods, without any surprising technical effect.

The use of percentage (even inputted by the user) to define the interval in which the starting points have to be is also obvious for the skilled person.

The remaining features in claims 5-10 are minor implementation details.

4.5 The subject-matter of claim 11 is not inventive, because the rotation of the set to be compared to align its starting point with the reference starting point is well-known, as disclosed for example in document D1 (page 209, right-hand column, lines 8-39).

4.6 The subject-matter of claims 12-15 is not inventive.

The same steps are applied in document D1 (sections 3.2 and 3.3, on pages 210-213) with the only difference that in D1, the distances between two consecutive contour points are not equal. However, the application of the equations (9) to (15) of document D1 to the case of N sample points for each shape contour and equal distances between respectively the points of the first set and the points of the second set, would give the result that the expected control point on the second set for one control point of the first set would be the control point or the next contour point.

Therefore, the same technical effect (minimising the distance while being deformation and noise robust) is also achieved in D1 using the same method.

The remaining features in claims 12-15 are minor implementation details.

4.7 The subject-matter of claims 16 and 17 is not inventive, for the following reasons :

- using the average of the distance to determine the dissimilarity degree is one possibility commonly used by the skilled person, as disclosed for example in D1 (page 209, right-hand column, equations (7) and (8)) or in D3 (page 240, left-hand column, equation (6)).

- using the standard deviation (or the variance) is also well-known in the field, as shown



in D3 (page 240, left-hand column, equation (7)).

- using the circumference (or length of contour) is also well-known in the field as an important feature for recognition, as shown in D3 (page 240, left-hand column, section 3.2).

The particular equation provided in claim 16 is only a mere choice for the skilled person, without any surprising technical effect, using values which are commonly computed and combined to define the dissimilarity degree between shape contours.

4.8 The subject-matter of claim 18 is not new as it is disclosed in D1 (page 212, left-hand column, line 1 to right-hand column, line 14).